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# Arthritis Awareness Campaign 2003

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## Project Evaluation Report

Missouri Arthritis and Osteoporosis Program and the  
Office of Surveillance, Evaluation, Planning and  
Health Information

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### Background

Arthritis is a major chronic disease that affects an estimated 1,280,000 Missouri adults age 18 and older.<sup>i</sup> Nearly half, 521,000, of those adults are limited in their activities as a result of their arthritis.<sup>ii</sup> “For persons with arthritis, arthritis education has been shown to help reduce pain, yet only one in ten have taken such courses. Health-care providers and persons with arthritis are missing opportunities to improve health through recommending or participating in arthritis self-management education”.<sup>iii</sup>

The Centers for Disease Control and Prevention (CDC) developed, “**Physical Activity. The Arthritis Pain Reliever**”, a health communications campaign for general use by state health departments and their partners. “The campaign was developed after conducting extensive formative research to promote physical activity as a method of arthritis self-management. Physical activity can have an important impact and beneficial effect on arthritis pain and associated disability.

The campaign is designed to achieve the following goals:

- Raise awareness of physical activity as a way to manage arthritis pain and increase function,
- Increase understanding of how to use physical activity (types and duration) to ease arthritis symptoms and prevent further disability,
- Enhance the confidence of persons with arthritis to enable them to be more physically active, and
- Increase trial of physical activity behaviors.

The target audience for the campaign includes men and women with arthritis, physician-diagnosed or self-diagnosed, who have the following characteristics:

- African American or Caucasian,
- Ages 45 to 64 years,
- High school education or less,
- Income less than \$35,000 a year, and
- Arthritis that has begun to or threatens to have negative impact on valued life roles.<sup>iv</sup>

The Missouri Arthritis and Osteoporosis Program (MAOP) implemented the CDC health communications campaign in early 2003. MAOP selected 14 counties to receive radio spots, print ads and brochures. The remaining 88 counties in the network area were to receive radio spots only. Between mid February and late April 2003, ninety-three 30-second promotional spots were aired on Missourinet, a statewide network of sixty-five radio stations. The Missourinet coverage area included 102 counties out of Missouri’s 115 counties. The ninety-three spots translated to 5,952 messages during the campaign period with an estimated net reach of 178,100 women between

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the ages 45-64. The estimated reach was derived by Network Software Systems based on the 2002 Nationwide Arbitron audience estimates, based on an eight week, 3 spot schedule, Monday–Friday, 6:00 AM to 7:00 PM. MissouriNet provided an additional 25 radio spots (ten 30-second messages and fifteen 60-second messages) through the Brownfield Network delivering an additional 1,225 messages.

MAOP placed print ads in 19 newspapers within the 14 counties selected for the multi-media campaign. The print ads ran four times in each newspaper between March 1st and May 7<sup>th</sup>, 2003. Circulation ranged from 914 readers (Macon Home Press) to 50,000 readers (Jefferson County Leader). Two of the newspapers ran one print Public Service Announcement (PSA) and two newspapers ran two print PSAs in addition to the four paid ads. Total readership for the 19 newspapers was estimated to be 213,510 at the time of the campaign.

MAOP also provided brochures to the Regional Arthritis Centers (RACs) for distribution in the 14 selected counties. The brochures were distributed in April towards the end of the campaign. The Northeastern and Northwestern RACs provided the program with distribution logs indicating number of brochures distributed by site and date.

## Methodology

“The CDC Arthritis Program Implementation Logic Model outlines five questions to guide evaluation of the campaign: 1. Were the campaign materials distributed? (To communication channels such as radio stations, community centers, and/or newspapers, etc.) 2. Were the materials used? (Did the radio stations air the spots? Did the newspaper print the PSAs? Were the posters, flyers, and/or counter-top brochure holders used in their community locations?) 3. Did the materials reach the target audience? (What was the listener-ship in the target audience at the time the spots aired? What is the profile of the readership? How many brochures were picked up from community locations or sent to members of the target audience?) 4. Were the materials read and/or understood by the target audience? 5. Did the campaign produce changes in knowledge, attitudes or beliefs, or behavior?”<sup>v</sup>

MAOP developed a self-mailer survey to address evaluation questions four and five from the CDC Arthritis Program Implementation Logic Model. Additionally, MAOP wanted to determine if combining radio spots, newspaper PSAs and brochures was more effective than radio spots alone in producing changes in knowledge, attitudes or beliefs, or behavior. To achieve this, MAOP selected 14 counties to place the combined media materials. These 14 counties were selected based on their demographics. These counties had a high proportion of their population that was similar to the demographics of CDC’s target population. The survey was mailed to those 14 counties and to 14 adjacent counties with similar demographics that had only received the radio spots. A total of 21,000 surveys (750 per county) were mailed to the randomly selected residents residing within the 28 counties.

## Results

The overall response rate for the campaign evaluation survey was extremely low. Only 762 surveys out of 21,000 mailed were returned for a response rate of four percent (03.6%). Of those 762 responses, only 417 fell within the targeted age group.

The number of responses from the 14 counties selected for the combined-media campaign (380) was nearly equal to the number of responses from the 14 adjacent counties selected for comparison in the evaluation (382). Similarly, the number of responses from the targeted age group was nearly equal for both groups of counties, 210 responses for the combined-media counties and 207 responses for the adjacent counties.

### Respondents with Physician Diagnosed Arthritis and/or Chronic Joint Symptoms

With regards to having been told by a doctor that you have arthritis (Physician-diagnosed arthritis - PDA), again, the number of respondents ages 45-64 for both groups was nearly identical. The number of respondents, ages 45-64 in the combined-media counties who indicated that they had PDA was 143 (68.1% of the respondents within the targeted age group), whereas the number of respondents, ages 45-64 in the adjacent counties was 140 (67.6% of the respondents within the targeted age group). The number of respondents within the targeted age group who indicated they did not have PDA, 63, was the same for both sets of counties. Similarly, the number of individuals age 45-64 (4) who were unsure if a doctor has ever told them that they had arthritis was identical for the combined-media and adjacent counties.

**Table 1:  
Number of Targeted Respondents With and Without Physician Diagnosed Arthritis (PDA)**

Age Group	Combined Media Counties				Single Media Counties			
	With PDA		Without PDA		With PDA		Without PDA	
	n	%	n	%	n	%	n	%
45-64	143	68.1	63	31.9	140	67.6	63	32.4

The percent of individuals ages 45–64 with PDA who indicated that they had symptoms of chronic joint syndrome (CJS), pain, aching, stiffness or swelling, on most days for at least one month during the past year was slightly higher in the combined-media counties (96.5%) than for the adjacent counties (94.3%). Three individuals ages 45-64 with PDA residing in the combined media counties stated that they did not have symptoms of CJS during the past year, while eight individuals with PDA within the adjacent counties stated that they did not have CJS symptoms. There were thirty individuals ages 45-64 (18.2% of those reporting CJS) living in the adjacent counties who indicated they had experienced CJS within the past year but did not have PDA. The number of individuals ages 45-64 who had CJS but not PDA residing in the combined-media counties was nearly identical (28 or 16.7% of those reporting having CJS). One percent (1.2%) of individuals with CJS in the combined media counties were unsure if they had PDA and two percent (1.8%) of the targeted age groups with CJS in the adjacent counties were unsure if they had CJS.

**Table 2:  
Number of Targeted Respondents With Physician Diagnosed Arthritis (PDA) and Chronic Joint Symptoms (CJS)**

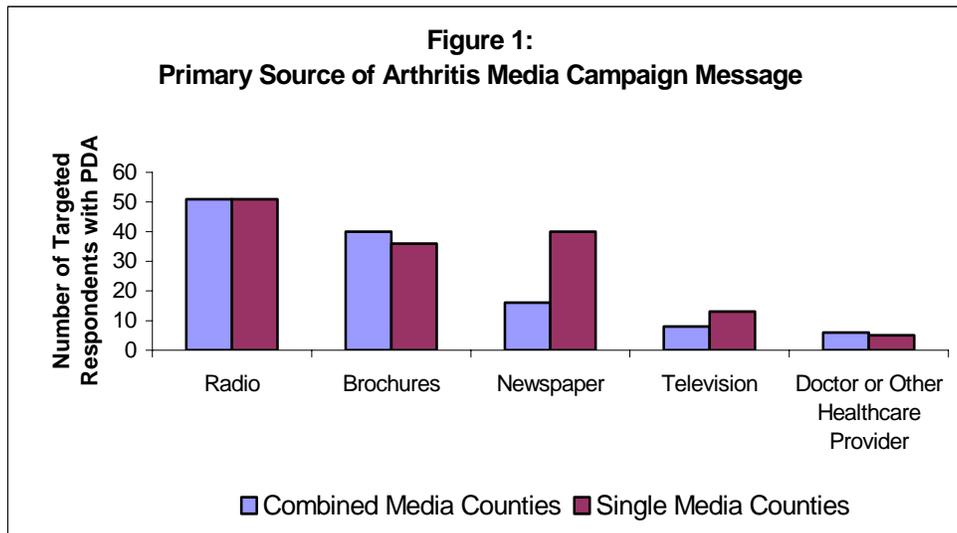
Age Group	Combined Media Counties				Single Media Counties			
	With CJS		Without CJS		With CJS		Without CJS	
	n	%	n	%	n	%	n	%
45-64	138	96.5	3	3.5	132	94.3	8	5.7

**Table 3:  
Number of Targeted Respondents With Chronic Joint Symptoms (CJS) by Physician Diagnosed Arthritis (PDA) Status**

Age Group	Combined Media Counties						Single Media Counties					
	With PDA		Without PDA		Unsure of PDA		With PDA		Without PDA		Unsure of PDA	
	n	%	n	%	n	%	n	%	n	%	n	%
45-64	138	82.1	28	16.7	2	1.2	132	80.0	30	18.2	3	1.8

### Media Campaign Message: Primary Source

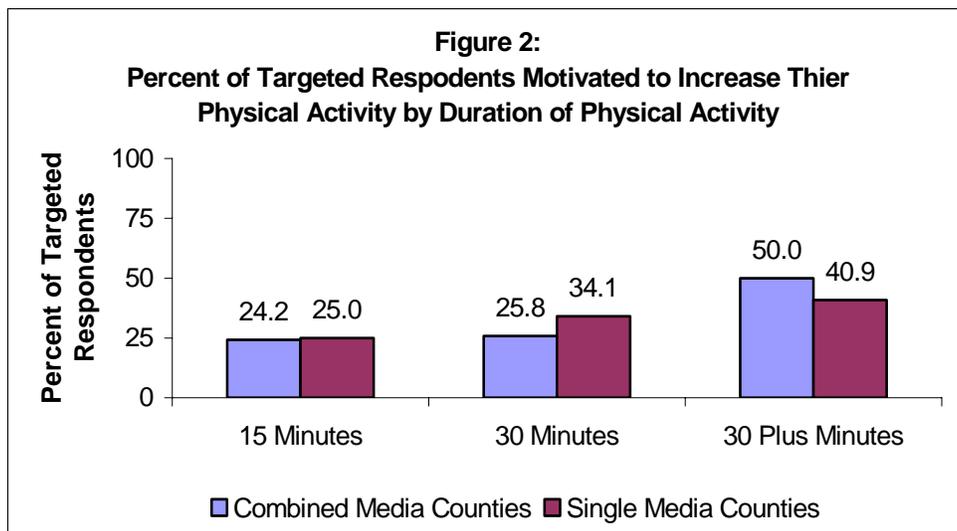
Nearly seventy-two percent (71.8%) of respondents age 45-64 with PDA within the combined-media counties indicated that they had heard that physical activity could reduce arthritis pain and increase energy. Whereas, seventy percent (69.8%) of respondents age 45-64 with PDA within the adjacent counties indicated that they had heard that physical activity could reduce arthritis pain and increase energy. Respondents age 45-64 with PDA within the combined-media counties who heard the ad listed radio (51 respondents) as the primary media source for the ad. Brochures (40 respondents) were listed as second, followed by newspaper (16 respondents), television (8 respondents) and then doctor or other healthcare provider (6 respondents). As with the targeted respondents in the combined-media counties, respondents age 45-64 with PDA within the adjacent counties also listed radio as the primary media source for the ad (51 respondents). However, newspapers (40 respondents) were listed as second, slightly ahead of brochures (36 respondents). Television was listed (13 respondents) next, followed by doctor or other healthcare provider. This is interesting in that nearly three times the number of targeted respondents in the adjacent counties listed newspaper as a source of the ad than those in the combined-media counties where the print ads ran.



Targeted respondents were asked which of three messages did they hear during the campaign: 'Reduce Arthritis pain? It's not such a big stretch'; 'Increase your energy, be physically active'; or 'Physical activity. The arthritis pain reliever.' The targeted respondents were also allowed to mark other as well. 'Reduce Arthritis pain? It's not such a big stretch' was the primary campaign message; while 'Physical activity. The arthritis pain reliever' was a secondary tag line. The message, 'Increase your energy, be physically active', was fictitious and not part of the CDC media campaign. Only eight percent (7.8%) of the respondents age 45-64 with PDA within the combined-media counties indicated hearing the primary message. Similarly, seven percent (7.2%) of the respondents age 45-64 with PDA within the adjacent counties identified the primary message as the one heard. Nearly fifty-one percent of the targeted respondents in the combined-media counties identified the secondary tag line as the message heard. The percent of targeted respondents (51.5%) within the adjacent counties that identified the secondary campaign message as the one heard was nearly identical to the targeted respondents in the combined-media counties. The percent of targeted respondents residing in the combined-media counties identifying the fictitious message as the campaign message heard was slightly higher than those in the adjacent counties, forty-eight percent (48.0%) and forty-one percent (41.2%), respectively.

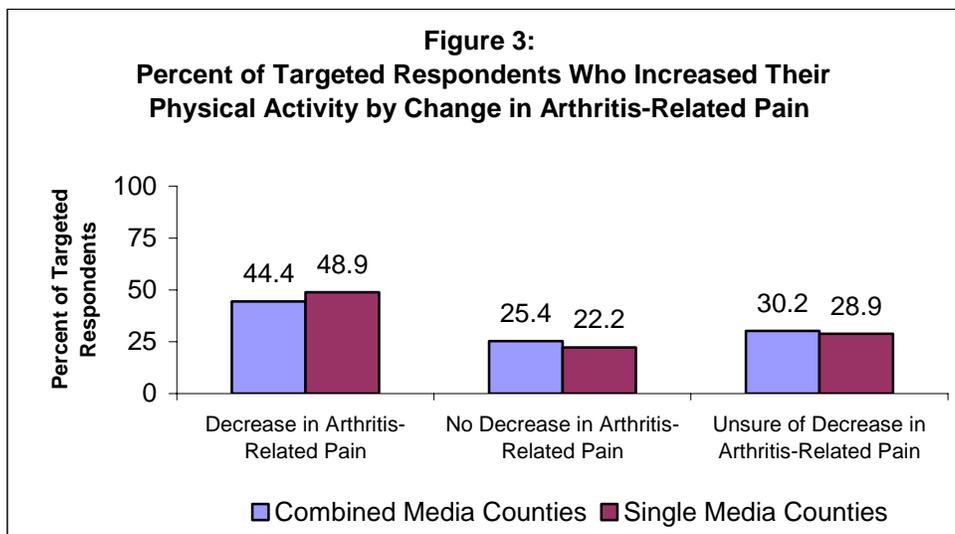
### Media Campaign Message: Increased Physical Activity

When asked 'did this message motivate you to engage in or increase your level of physical activity?' nearly sixty-four percent (63.6%) of respondents age 45-64 with PDA within the combined-media counties indicated that they had been motivated, whereas only forty-six percent of the targeted respondents in the adjacent counties stated that they had been motivated to engage in or increase their level of physical activity. Fifty percent (50.0%) of the targeted respondents in the combined-media counties who indicated that they were motivated by the message to engage in or increase their physical activity indicated that they were physically active for more than thirty minutes on three or more occasions per week for the past four to six weeks, twenty-six percent (25.8%) were physically active for approximately thirty minutes and twenty-four percent (24.2%) were active for approximately fifteen minutes on three or more occasions per week for the past four to six weeks. Only forty-one percent (40.9%) of the targeted respondents in the adjacent counties who indicated that they were motivated by the message to engage in or increase their physical activity indicated that they were physically active for more than thirty minutes on three or more occasions per week for the past four to six weeks, thirty-four percent (34.1%) were physically active for approximately thirty minutes and twenty-five percent (25.0%) were active for approximately fifteen minutes on three or more occasions per week for the past four to six weeks.



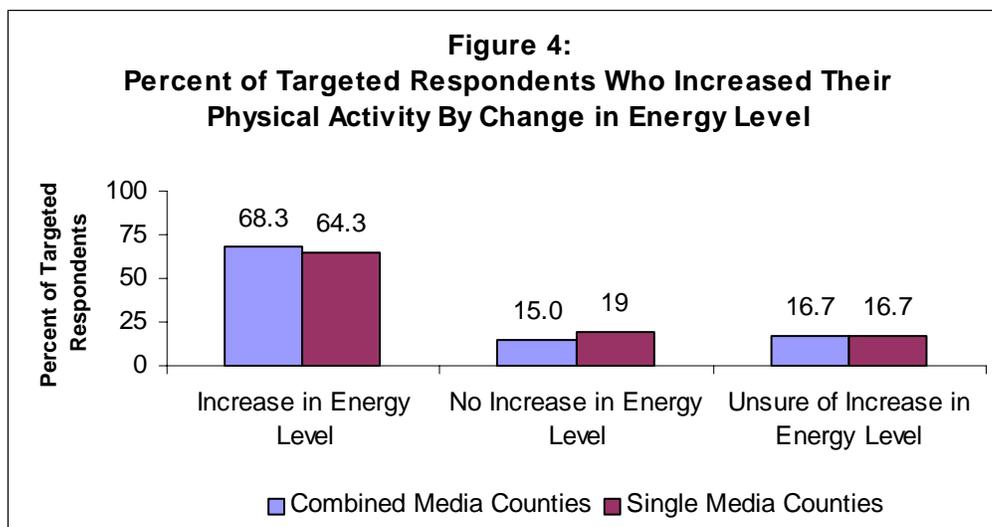
### Decreased Arthritis-Related Pain

Forty-four percent (44.4%) of the respondents age 45-64 with PDA within the combined-media counties that indicated that they had been motivated stated that the level of physical activity that they reported had decreased their arthritis-related pain, whereas twenty-five percent (25.4%) indicated that the reported level of physical activity did not decrease their arthritis-related pain, while thirty percent (30.2%) were unsure if their arthritis-related pain had decreased as result of the reported level of physical activity. Forty-nine percent (48.9%) of the targeted respondents in the adjacent counties that indicated that they had been motivated stated that the level of physical activity that they reported had decreased their arthritis-related pain. Twenty-two (22.2%) of the targeted respondents in the adjacent counties stated that the reported level of physical activity did not decrease their arthritis-related pain and twenty-nine percent (28.9%) were unsure.



### Increased Energy Level

Similarly, there were little differences between the combined-media counties and the adjacent counties with regards to increased energy due to increase physical activity. Sixty-eight percent (68.3%) of the target population in the combined-media counties indicated that their energy level increased, while 15 percent (15.0%) stated that their energy level did not increase and 17 percent (16.7%) were unsure. Sixty-four percent (64.3%) of the Individuals age 45-64 with PDA in the adjacent counties stated that their energy level increased, 19 percent (19.0%) indicated that their energy level did not increase and seventeen percent (16.7%) were unsure.



## Discussion

The results should be interpreted with caution due to the low response rate. Only 762 surveys out of 21,000 mailed were returned for a response rate of four percent (03.6%). Of those 762 responses, only 417 fell within the targeted age group. The number of respondents, ages 45-64 in the combined-media counties who indicated that they have PDA was 143 and the number of respondents, ages 45-64 in the

adjacent counties was 140. The number of targeted respondents from the twenty-eight counties represents less than one percent (0.2%) of the estimated number of adults ages 45-64 with PDA (136,059) within the twenty-eight counties. The low response rate is largely due to the methodology used to distribute the survey. The program was unable to determine an effective way to reach the target population for distributing the evaluation survey and relied on mass mailing to randomly selected individuals.

There should be concern over the identification of the campaign message heard by the target group. Less than eight percent of the target population identified the primary campaign message, 'Reduce Arthritis pain? It's not such a big stretch'; as the message heard. While it is encouraging that the target group listed the secondary tag line, 'Physical activity. The arthritis pain reliever' as the most frequently heard message, the results are tempered by the fact that the fictitious message, 'Increase your energy, be physically active', was listed nearly as often as the secondary tag line. One reason for both the secondary tag line and the fictitious message being identified as most heard message is possible bias caused by the lead-in question. The lead-in question asked 'In the past three months, have you heard that physical activity can reduce arthritis pain and increase energy.' The wording and phrasing of the lead-in question is very similar to the wording and phrasing of the secondary tag line and the fictitious message. It is also possible that the lead-in question also biased the respondents against the primary message. The primary message references stretching with a play on the word stretch. It is quite possible that the respondents do not equate stretching with physical activity.

It is difficult to determine the effectiveness of the print ads in conjunction with radio in creating awareness and motivating the targeted group to engage in or increase their level of physical activity. Only sixteen respondents, age 45-64 with PDA in the combined-media counties identified newspaper as the source of the campaign message. It should be noted that respondents in adjacent counties listed newspaper nearly three times more than the respondents in the combined-media counties, even though the print ads were not placed in the adjacent counties. However, there are several possible explanations for the limited listing of newspaper as the source of the campaign message in the combined-media counties. First, it is possible given the distribution method of the survey that the survey did not reach that portion or the targeted group who reads the newspaper. Another possibility is the print ad buy. Print ads were bought in March and in May and placed once per week, on alternating weeks, within each month. Conventional wisdom considers effective frequency of an ad to be three or more impressions/opportunities-to-see over a four-week period before a consumer remembers the message. Therefore, it is possible that print ads did little to promote awareness of the message. As to why the respondents in the adjacent counties listed newspaper more often is more difficult to ascertain. It is possible that the local newspapers had an article on arthritis or physical activities and the respondents did not make a distinction between a newspaper article and a print ad.

## Recommendations

The primary recommendation for implementing and evaluating the media campaign is to follow CDC guidelines and limit the evaluation to the five evaluation questions as proposed by CDC. Although this There is no need to research the differences between single media campaigns versus multi-media campaigns. There is sufficient evidence that multi-media campaigns tend to be more effective since they tend to have a broader reach across audiences. The Program should instead focus on determining the appropriate mix, frequency and duration of the media campaign for its intended audience.

The program needs to determine an effective way of distributing the evaluation survey to the target audience to assure an adequate sample for evaluation. Additionally, the program should review the evaluation survey and address possible introduction of bias in the questions and placement of questions.

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<sup>i</sup> Behavioral Risk Factor Surveillance System 2003

<sup>ii</sup> Ibid

<sup>iii</sup> CDC <http://www.cdc.gov/arthritis/index.htm>

<sup>iv</sup> CDC [http://www.cdc.gov/arthritis/campaigns/physical\\_activity/index.htm](http://www.cdc.gov/arthritis/campaigns/physical_activity/index.htm)

<sup>v</sup> CDC [http://www.cdc.gov/arthritis/campaigns/physical\\_activity/faq.htm](http://www.cdc.gov/arthritis/campaigns/physical_activity/faq.htm)